UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,873	02/22/2002	Hiromitsu Tanaka	219871US0	7887

22850 7590 10/17/2006

C. IRVIN MCCLELLAND
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
LEE, CYNTHIA K	

ART UNIT	PAPER NUMBER
1745	

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/079,873	TANAKA ET AL.	
	Examiner	Art Unit	
	Cynthia Lee	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *37,39-53 and 55-69* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *37,39-53 and 55-69* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is responsive to the amendment filed on 8/28/2006. Claims 37, 39-53, and 55-69 are pending. Applicant's arguments have been considered, but are not persuasive. Thus, claims 37, 39-53, and 55-69 are finally rejected for reasons of record as set forth herein below.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 37, 39-53, 55-66 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The recitation "separation of the amine-contacted solid polymer electrolyte or precursor thereof from the amine compound" in claims 37, 45, and 53 is not supported by the specification as originally filed. Applicant asserts that support is found in Example 1 in which step 2 recites "[s]ubsequently, the membrane was taken out and washed with R113 and THF solutions. The Office is not convinced because "separating" encompasses many processes and is much broader than merely "washing."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 37, 39, 41, 42, 67 are rejected under 35 U.S.C. 102(e) as being anticipated by Michot (US 6670424).

Michot et al disclose a process for obtaining an electrolyte polymer by treating an electrolyte polymer with ammonia. The membrane is rinsed and separated from the reaction medium. The membrane is further treated by heating the membrane at 110C. The membrane is a copolymer of tetrafluoroethylene and perfluorovinyloxyethanesulfonyl fluoride. Michot discloses an electrolyte membrane obtained by the process above. Refer to Example 11.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 37 and 40 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Michot (US 6670424).

Michot discloses all the elements of claim 37. Michot does not expressly disclose that the amine compound has a diffusion rate in the solid polymer electrolyte or the precursor thereof which is higher than the reaction rate with the solid polymer electrolyte or the precursor thereof. However, It has been held by the courts that where the claimed and prior art products are identical or substantially identical in structure or composition, a prima facie case of anticipation or obviousness has been established. In re Best, 562 F2d. 1252, 1255,195 USPQ 430, 433 (CCPA 1977). See MPEP 2112. It has been held by the courts that if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F2d. 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). See MPEP 2112.01. Thus, the applicant's amine compound is anticipated by Michot.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 43-53, 55-66, 68, 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michot et al (US 6,670,424).

Michot discloses all the elements of claim 37 and is incorporated herein. Regarding claims 43 and 44, Michot discloses that the membrane can be used in a fuel cell (1:10-15). Further, Michot makes a fuel cell using membranes from Examples 3 and not, but not Example 11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make a fuel cell using Michot's Example 11 membrane for the benefit of utilizing Michot's Example 11 membrane.

Michot discloses a process for producing a modified electrolyte comprising contacting a solid polymer electrolyte or a precursor thereof with an amide compound. The membrane is heated to 125 C. Further, the solid polymer electrolyte or precursor is contacted with lithium hydroxide. Subsequently, the membrane is washed with deionized water. Refer to Examples 3-5.

Michot discloses that the membrane is washed after the heating step. However, Michot discloses in Examples 3-5 that the membrane is washed before the heating step. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to also wash membrane of Examples 3-5 prior to heating, as taught in Example 11, for the benefit of eliminating residual $[Na(Si(CH_3)_3NSO_2CF_2]_2CF_2$ prior to heating the membrane.

Regarding claims 48 and 56, Michot does not expressly disclose that the amine compound has a diffusion rate in the solid polymer electrolyte or the precursor thereof which is higher than the reaction rate with the solid polymer electrolyte or the precursor

thereof. However, It has been held by the courts that where the claimed and prior art products are identical or substantially identical in structure or composition, a prima facie case of anticipation or obviousness has been established. In re Best, 562 F2d. 1252, 1255,195 USPQ 430, 433 (CCPA 1977). See MPEP 2112. It has been held by the courts that if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F2d. 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). See MPEP 2112.01.

Response to Arguments

Applicant's arguments filed 8/28/2006 have been fully considered but they are not persuasive.

Regarding the 35 USC 112, 1st paragraph rejection, Applicant asserts that for example, should the contact be made in the vapor state (pgs 15-16), separation of the amine-contacted solid polymer electrolyte or its precursor from the amine compound would not be carried out by washing, and thus, "separation" is a more appropriate term.

The Examiner remains unpersuaded. Applicants have not disclosed or suggested how the separation should occur should the contact be made in the vapor state. Further, one can "wash" the membrane and still not "separate" the amine compounds.

Regardless, the claim language "separation of the amine-contacted solid polymer electrolyte or precursor thereof from the amine compound" can be interpreted two ways: 1) removing the membrane from the amine solution and thus, the membrane is

separated from the unreacted amine in solution and 2) it is not possible to separate the contacted amine because it has reacted with the membrane and has become part of the membrane.

The Examiner notes that "separation" is not an active method limitation because it is in a noun form.

Applicant asserts that Michot's Example 11 is directed to a further treatment of a membrane of Example 3. Applicant asserts that Michot's Example 3, heating takes place without separation.

The Examiner is not relying on Example 3 to meet the claim limitations because Example 11 has been found to read on the claims. Further, the claims are written in "comprising" language and thus, are open to additional steps before and after the "contacting", "separation", and "heating" steps as recited in the claims.

Applicant asserts that it is difficult to perform crosslinking when the invention is carried out as disclosed by Michot in Example 11.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the formation of crosslinks) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant misinterprets the principle that claims are interpreted in the light of

the specification. Although the formation of crosslinks are found as examples or embodiments in the specification, they were not claimed explicitly. Nor were the words that are used in the claims defined in the specification to require these limitations. A reading of the specification provides no evidence to indication that these limitations must be imported into the claims to give meaning to disputed terms. *Constant v. Advanced Micro-Devices Inc.,* 7 USPQ2d 1064.

Regardless, Applicant's Michot has been found to read on the instant claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Lee whose telephone number is 571-272-8699. The examiner can normally be reached on Monday-Friday 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ckl

SUSY TSANG-FOSTER
PRIMARY EXAMINER